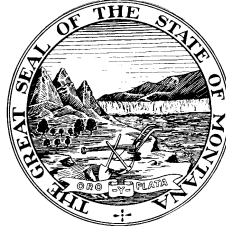


PUBLIC SERVICE COMMISSION
STATE OF MONTANA



Bill Gallagher, Chairman
Bob Lake, Vice Chairman
Kirk Bushman, Commissioner
Travis Kavulla, Commissioner
Roger Koopman, Commissioner

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April 11, 2014

Mr. Robert Nelson
Montana Consumer Counsel
111 N. Last Chance Gulch
Suite 1B, Box 201703
Helena, MT 59601

RE: Data requests in Docket D2013.12.85

Dear Mr. Nelson,

Enclosed please find data requests of the Montana Public Service Commission to the Montana Consumer Counsel numbered PSC-196 through PSC-236 in the above-referenced Docket. Please begin the response to each numbered data request on a new page. Please provide responses by April 25, 2014. If you have questions, please contact me at (406) 444-6191.

Sincerely,

Neil Templeton
Regulatory Division
Montana Public Service Commission

Service Date: April 11, 2014

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

* * * * *

IN THE MATTER OF NorthWestern Energy's)	REGULATORY DIVISION
Application for Approval to Purchase and)	
Operate PPL Montana's Hydroelectric Facilities,)	DOCKET NO. D2013.12.85
for Approval of Inclusion of Generation Asset)	
Cost of Service in Electricity Supply Rates, for		
Approval of Issuance of Securities to Complete		
the Purchase, and for Related Relief		

DATA REQUESTS PSC-196 THROUGH PSC-236 OF THE
MONTANA PUBLIC SERVICE COMMISSION
TO THE
MONTANA CONSUMER COUNSEL

PSC-196

Regarding: Electronic Files
Witnesses: Clark, Wilson

Please provide working electronic copies, with all links intact, of all exhibits, spreadsheets, and other files used to support your testimony.

PSC-197

Regarding: Depreciation
Witness: Clark

- a. Please explain your definition of intergenerational ratepayer inequity.
- b. If applicable and based on that definition, how would you account for the company's possible re-investment in future assets to offset that inequity? Are you assuming the company does not grow or re-invest in new assets?

PSC-198

Regarding: Exhibits

Witness: Clark

- a. Please explain how you accounted for John Wilson's recommended changes to capital expenditures in your revenue requirement.
- b. Please provide the supporting workpapers.

PSC-199

Regarding: Revenue Requirement

Witness: Wilson or Clark

- a. What would be the revenue requirement if the Consumer Counsel's recommendation on carbon price were adopted, in addition to adopting other recommendations made in Albert Clark's testimony?
- b. What would be the revenue requirement if the Consumer Counsel's recommendation on carbon price were adopted, but other recommendations (a 10% ROE, instead of 9%, no adjustment for terminal value, etc.) were not adopted?

PSC-200

Regarding: Testimony p. 53 lines 19-20

Witness: Wilson

- a. Please provide all workpapers supporting your testimony that a reasonable risk premium is 3 to 6 percent above the current cost of risk free debt, in EXCEL and paper formats.
- b. Please explain your methodology supporting the workpapers.

PSC-201

Regarding: Capital Structure

Witness: Wilson

In Brian Bird's direct testimony at 28:13, he proposed a 52/48 debt to equity capital structure. Please provide analysis and reference to direct testimony to support your proposed 55/45 debt to equity structure.

PSC-202

Regarding: Implementing a Deferred Carbon Price

Witness: Wilson

- a. Regarding your proposed rate base deferral described at 62:8-63:3, please describe the accounting details, with reference to GAAP.
- b. How would a carbon tax trigger be identified? Would it require a liquid market for carbon credits, or would various state and federal carbon taxes qualify?
- c. How would the impact of carbon taxes on market prices be estimated in order to calculate the appropriate level of deferred capital to enter into rate base?
- d. What if carbon prices ended up being higher than NorthWestern has predicted? Would NorthWestern be entitled to book capital above the original deferred amount?
- e. Under your proposal, do you expect NorthWestern would use a debt issue or equity issue to fund the hypothetical carbon price, separate from the debt-equity used to finance the bulk of the purchase price?

PSC-203

Regarding: Principal-Agent Problem and Moral Hazard

Witness: Wilson

- a. Please describe the principal-agent problem and moral hazard.
- b. Can the principal-agent problem and moral hazard be used to describe relations between a regulated utility and its customers?
- c. Can the principal-agent problem and moral hazard be used to describe relations between a regulatory commission and the public?

PSC-204

Regarding: Principal-Agent Problem and Moral Hazard

Witness: Wilson

For the following questions assume a principal-agent relation with NorthWestern as agent and its customer base as principal.

- a. Do the principal and agent possess the same information, or is their information asymmetric?
- b. Is the agent in a position to act to increase its own welfare at the expense of the principal?

- c. Is the agent's action exposed to moral hazard? Please explain why or why not.
- d. If your answer to part (c) is "yes", what actions may the Commission take to reduce the moral hazard?

PSC-205

Regarding: Principal-Agent Problem and Moral Hazard

Witness: Wilson

For the following questions assume a principal-agent relation with the Commission as agent and the Montana public as principal.

- a. Do the principal and agent possess the same information, or is their information asymmetric?
- b. Is the agent in a position to act to increase its own welfare at the expense of the principal?
- c. Is the agent's action exposed to moral hazard? Please explain why or why not.
- d. If your answer to part (c) is "yes", what actions may the Commission take to reduce the moral hazard?

PSC-206

Regarding: DCF analysis, Carbon costs

Witness: Wilson

- a. At 35:15-17 you state that NorthWestern's DCF analysis includes \$247.4 million of assumed hypothetical capitalized CO2 tax costs in the \$826 million amount. Did you calculate the \$247.4 million amount by following the instructions NorthWestern provided in data response PSC-160? If not, how did you estimate the \$247.4 million amount?
- b. Your Exhibit_(JW-1) shows NorthWestern witness Stimatz's Exhibit_(JMS-1) modified so that the net present value calculation reflects market prices with the carbon adder removed. Exhibit_(JW-1) shows that you left the value for depreciation calculations, in cell B6, equal to the original value in Exhibit_(JMS-1), which is \$896 million. Would it be reasonable to set the value for depreciation calculations equal to the value in cell B10? If not, please explain why.
- c. If you set the value for depreciation calculations equal to the value in cell B10 in your Exhibit_(JW-1), how does the estimated effect of the carbon adder change?

- d. NorthWestern witness Stimatz's Exhibit_(JMS-1) assumes that the Kerr conveyance price is \$25 million, although NorthWestern and PPLM have agreed to a \$30 million conveyance price. Would it be reasonable to make this adjustment in your Exhibit_(JW-1)? If so, how does that adjustment change the estimated effect of the carbon adder?

PSC-207

Regarding: Modified comparative cost analysis

Witness: Wilson

- a. At 42:16-43:11 you describe your Exhibit_(JW-3), which substitutes an alternative CO2 cost for NorthWestern's original assumption in Exhibit_(TEM-2). To modify Exhibit_(TEM-2), did you first create an alternative market price forecast using the method described in data response PSC-160 and your alternative CO2 tax, and then input that alternative market price forecast into the "Carbon Tax and Mid-C Curve" tab in Exhibit_(TEM-2)? If not, please explain the underlying steps for your modification to Exhibit_(TEM-2).
- b. On p. 45:3-6 you state that your CO2 tax modification in Exhibit_(JW-3), while not factual, reflects possibly more realistic assumptions regarding carbon taxes. Do you consider your modification to Exhibit_(TEM-2) to be a reasonable way to evaluate the risk of a future CO2 cost?

PSC-208

Regarding: Influence of Carbon Price on Market Alternative

Witness: Wilson

You assert that "The Company's analysis assumes that total carbon tax penalties for the competitive market purchased power alternative will be \$1.375 billion over the period 2021-2043" (41:8-10). Please demonstrate this derivation.

PSC-209

Regarding: Difference in Proposed Price and DCF Price

Witness: Wilson

Regarding the difference between the proposed purchase price of \$900 million and the DCF value of \$826 million; should the difference of \$74 million be recoverable in rates?

PSC-210

Regarding: Carbon Price Forecasts

Witness: Wilson

- a. Figure 6-11 shown on p. 6-27 in Volume 1 of NorthWestern's Electricity Supply Resource Procurement Plan shows a number of carbon price forecasts projected by public and regulated investor owned utilities. In your opinion, how many of these utilities are at risk of serious financial loss if their projected price levels and escalation rates are not realized?
- b. In your opinion, would a regulated utility benefit from projected carbon prices that exceed realized carbon prices to the extent that the inflated carbon price projections justify investment in expensive resources that provide increased profit opportunities?
- c. In your opinion, are the carbon price projections of regulated utilities exposed to moral hazard? If so, should the Commission discount the carbon price projections made by regulated utilities?

PSC-211

Regarding: Carbon Price Forecasts

Witness: Wilson

- a. NorthWestern compared its carbon price forecast with that of other Western electric utilities. (See Figure 6-11, 2013 RPP). It appears that NorthWestern eliminated certain forecasts that these other utilities used from the estimation of the mean values that NorthWestern presents, even when those forecasts were "base" cases (Power, 12:30-13:1). Should this figure be relied upon as a credible representation of what other utilities forecast for their future carbon prices, and are there other problems with NorthWestern's representations of other utilities carbon forecasts? Explain.
- b. Have you conducted an analysis of what Figure 6-11 would look like if only the base or expected case of the sample utilities were used, rather than an average of those utilities' carbon forecasts which includes zero-cost cases? Please provide if you have.
- c. Have you conducted an analysis of what Figure 6-11 would look like if an average of those utilities' carbon forecasts were used, rather than an average which excludes zero-cost cases? Please provide if you have.
- d. Do you have any elaboration on the Consumer Counsel's comments relative to the 2013 RPP and do you plan to testify on this topic?

PSC-212

Regarding: Carbon Price Forecasts

Witness: Wilson

- a. Do you believe it is possible to make reasonable predictions about how the EPA's plan to regulate existing point sources of carbon dioxide through Section 111(d) of the Clean Air Act will affect wholesale prices for electricity in the Northwest? Please explain.
- b. Are there other ways that could reasonably be expected to lead to a carbon price (such as Congressional action) in the markets on which NorthWestern relies, other than the EPA regulation described in sub-part (a)? If so, what are they, and how should their expected costs be forecast and quantified?
- c. NorthWestern arrived at a deterministic forecast of a \$15 per ton carbon price, escalating 5% and coming into effect in 2021 at about \$21 per ton. What, in your view, is the most realistic carbon price expectation, if NorthWestern's is not realistic?

PSC-213

Regarding: NorthWestern's Electricity and Natural-Gas Price Forecasts

Witness: Wilson

- a. Other than your disagreement over carbon prices, do you believe NorthWestern's market price forecast for electricity is a realistic price forecast? Explain.
- b. Do you believe that NorthWestern's natural gas price forecast is realistic? Explain.

PSC-214

Regarding: Market valuation assumptions

Witness: Wilson

- a. At 12:7-13:18 you identify three assumptions on which NorthWestern's market valuation depends: CO2 taxes, capital expenditures, and terminal value. Are NorthWestern's assumptions regarding the alternative market purchase costs also important to the valuation? If not, please explain why.
- b. At 42:10-11 you state that in the exhibits you prepared to show cost comparisons between the hydro purchase and market purchase costs you used NorthWestern's projections for market purchases. Was your decision to use NorthWestern's projections for market purchases based on an independent assessment of the reasonableness of these projections?
- c. If the answer to part (b) is "yes," please provide that assessment.

- d. If the answer to part (b) is “no,” would it be reasonable for the Commission to consider how the valuation would change under different projections?
- e. Did you analyze how alternative natural gas price projections, such as those from the Energy Information Administration or the Northwest Power and Conservation Council, may affect NorthWestern’s market projections? If so, please provide that analysis.

PSC-215

Regarding: Market Valuation and Carbon Costs

Witness: Wilson

In your testimony, you note that a merchant buyer of the facilities would not be able to capture the future value of the product (in this case, the avoidance of carbon) in today’s market, from today’s consumers. (35:15-36:4).

- a. Are there market examples where a future value of a product is factored into today’s prices? Or is this, generally, an anomaly?
- b. NorthWestern added its projected carbon price to a forward market curve to derive its electricity price forecast. Do the forward market curves for electricity available for the next decade typically include a carbon price that is internalized within the price offered to and taken by purchasers?
- c. Would it be reasonable for the Commission to impute any value to the hydro purchase based on the risk that market prices could reflect CO2 costs in the future, to the extent that purchasing the hydros would allow NorthWestern to avoid CO2 costs? Please explain why or why not.
- d. At 19:15-17 you seem to agree that it is reasonable to consider risks such as possible CO2 costs in resource planning. To the extent that resource planning attempts to minimize the total present value cost of service, is it possible for the least costly plan to involve acquiring resources with higher near-term costs than those in an alternative, higher overall-cost plan?

PSC-216

Regarding: Value of the PowerSimm Model

Witness: Wilson

Should the Commission discount the value of the PowerSimm model for the purpose of evaluating whether preapproval of the Hydros acquisition is in the public interest, given that the Commission and intervening parties did not have access to the model for the purpose of checking the sensitivity of outcomes to alternative parameter and probability distribution specifications?

PSC-217

Regarding: Stochastic Modeling of Carbon Prices

Witness: Wilson

- a. In your opinion, given that an extensive body of carbon price data does not exist, does stochastic modeling of carbon prices provide significant additional value compared to deterministic modeling of a range of potential carbon prices?
- b. The Commission's consultant Evergreen Economics suggested that NorthWestern did not include a full range of scenarios (e.g., low, medium, high) of values for carbon price in its analysis. Do you agree with this criticism? Please explain.
- c. Ascend Analytics modeled carbon prices stochastically in PowerSimm using a triangular distribution in each period; with the mode pegged to NorthWestern's carbon price forecast, the lower limit equal to zero, and the upper limit equal to twice the mode. In your opinion, does this "triangular" carbon price model include information that is not included in the deterministic model?
- d. In your opinion, is a triangular distribution more plausible or useful in this case than a uniform distribution or a discrete distribution with positive point probabilities?

PSC-218

Regarding: Modeling of Risk in PowerSimm

Witness: Wilson

- a. You criticize NorthWestern for optimistic projections of risk associated with the Hydros. How could NorthWestern and Ascend Analytics have modeled the risks associated with the possibility of large and unanticipated capital expenditures that could be necessary to keep the dams operating?
- b. Do you believe that river flows are effectively modeled using a 30 year history? Is there reason to assume that flows may depart from a 30 year model? Please explain what factors could influence river flows.
- c. In your opinion, does PowerSimm appropriately estimate downside risk, *i.e.*, the risk that locked in cost-of-service-based supply rates for a very large asset like the Hydros might exceed supply rates based on market purchases?

PSC-219

Regarding: Major Capital Addition Scenario
Witness: Wilson

- a. What is the source data for the \$114 million in additions in 2024-26 in the major capital addition scenario represented on Exhibit_(JW-4)? Please provide it or identify where it is located in this docket.
- b. The time frame for this addition occurs near when the Thompson Falls re-licensing is scheduled. Is this scenario intended to be a proxy for a major, unanticipated re-licensing cost?

PSC-220

Regarding: Rainbow Upgrade
Witness: Wilson

- a. Part of the large cap-ex budget over the past number of years is attributable to the Rainbow Dam upgrade, as you observe at 29:2-4. Do you have information or belief as to why this upgrade (which cost tens of millions of dollars per additional MW of generating capacity) was undertaken?
- b. Do you have reason to doubt NorthWestern's contention that the Rainbow Upgrade was undertaken as a cost-effectiveness project? (See NWE response to DR PSC-079).
- c. If the Rainbow Upgrade was a cost-effectiveness project and not needed for other reasons, why would it be appropriate to assume a similar cap-ex contingency now (as does your Exhibit_(JW-4) rather than at the time of the go/no-go decision to undertake such an upgrade?

PSC-221

Regarding: Cap-Ex Estimates
Witness: Wilson

- a. You write "Even PPLM's budgeted capital expenditures over the next five years (2013-2017) average \$11.6 million per year – well above NWE's corresponding assumption from 2018 going forward." (29:8-11) Please identify which document you use to make this claim.
- b. You write "Indeed, there is not even a single year in the last ten when the actual or budgeted capital expenditure total was as low as the \$8.5 million amount that NWE assumes (with 2.5% inflation) for all future years." (29:18-30:2). Please identify which document you use to make this claim.

PSC-222

Regarding: Regulatory Approach to Cap-ex Questions

Witness: Wilson

- a. Did the Consumer Counsel retain an engineering expert to consult on due diligence matters? If so, why is the expert not appearing as a witness in this proceeding?
- b. Has the Consumer Counsel conducted a thorough review of NorthWestern's due diligence activities, or is it simply declining to do so, in preference of adopting the proposed ceiling on rate recovery to allay concerns?
- c. Should the Commission, where it doubts NorthWestern's estimated costs of capital expenditures and O&M, seek to substitute NorthWestern's judgment for a number it finds more appropriate?

PSC-223

Regarding: Consumer Counsel's Cap-Ex Proposal

Witness: Wilson

- a. In the Consumer Counsel's proposal to cap the recovery of capital expenditures, would the capital additions up to the proposed ceiling still be subject to a used and useful review in the context of periodic rate cases?
- b. You testify that you regard it as unlikely that the currently budgeted cap-ex will be sufficient to meet the requirements of the dams. But suppose that the actual amount of cap-ex is significantly lower than the \$10 million or even the \$8.5 million (escalating at 2.5% annually) that NorthWestern suggests. If the Consumer Counsel's approach is adopted, would it be appropriate to try to adopt a system of symmetrical incentives, and award NorthWestern the difference between what they spend and the \$10 million as a reward for, in essence, overbudgeting cap-ex in this original proposal?
- c. Certain costs that are sometimes booked into hydroelectric stations' capital budgets (such as for re-licensing) are treated as O&M expenses by NorthWestern in this application. Does this affect your recommendation in any way?
- d. Would the Consumer Counsel's proposed treatment of cap-ex require a provision to strictly specify the classes of capital expenditures?
- e. Should the Commission be concerned that capping the recovery of capital expenditures might discourage NorthWestern from prudent capital investment in facility maintenance, and hasten the rate of asset decay?

PSC-224

Regarding: DCF analysis, terminal value

Witness: Wilson

- a. At 13:8-12, you state that despite very low assumed expenditures for repair and renovation, the DCF analysis assumes the assets will have residual value of \$1.073 billion in twenty years. Is there is a relationship between asset repair and renovation investments and the residual value of an asset at some point in the future? If so, please describe the nature of this relationship.
- b. If NorthWestern's DCF analysis included estimates of future repair and renovation investments consistent with your expectations, would the \$1.073 billion residual value seem more reasonable? If not, please explain.
- c. Are you aware of a sound, industry-standard method for estimating the residual or terminal value of a generating facility at some point in the future? If so, please explain whether the method NorthWestern used is consistent with that method.
- d. At 23:3-5 you state that NorthWestern assumes zero decommissioning costs. Should any estimate of decommissioning costs be reflected in any terminal value number used in a DCF analysis?
- e. You testify that the \$1.073 billion in terminal value accounts for \$270 million of the company's \$826 million valuation. (38:8-9). Please demonstrate this derivation.

PSC-225

Regarding: Intergenerational equity

Witness: Wilson

- a. At 20:1-10 you describe an intergenerational equity problem associated with NorthWestern's CO2 tax assumptions. In traditional utility regulation, is it practically possible to altogether avoid intergenerational equity issues? For example, given the nature of depreciation and return on equity, does an intergenerational equity problem arise whenever a utility brings new plant into its rate base for ratemaking purposes?
- b. Please confirm that your intergenerational equity concern in this case is primarily the amount of burden imposed on current ratepayers, which you find to be extreme due to speculative and hypothetical CO2 tax cost assumptions (20:10-13). Otherwise please explain.
- c. How does the discounting of future benefits and costs in the DCF analysis relate to the intergenerational equity issue? That is, doesn't discounting the value of all future costs and benefits weight the decision analysis toward the perspective of today's ratepayers over future ratepayers, or the utility's perspective today?

- d. At 9:5-6 you indicate that there may be long-term benefits to ownership. What are some possible long-term benefits from ownership?

PSC-226

Regarding: Using Market to Meet Customer Needs

Witness: Wilson

- a. Is it acceptable practice to continue to expose NorthWestern customers to the market for meeting half of their supply needs?
- b. Is it possible to estimate the value of avoided market volatility? Is it appropriate to include volatility adders to the purchase prices of long term power purchase agreements (PPAs) and Company owned generation assets?
- c. Please compare the volatility of long-term PPAs and mid-term PPAs (such as the current seven-year contract NWE has with PPL) to the volatility of a large cost-of-service-based purchase like the Hydros.
- d. Do you agree with Ascend Analytics that price spikes are typically followed by a reversion to a mean in market prices for electricity and natural gas?

PSC-227

Regarding: Best Practices for Resource Planning

Witness: Wilson

- a. Should the Commission be concerned that the typical purpose of a resource plan—to surface the best resources to acquire, before their acquisition—is seemingly not the purpose of the 2013 Resource Procurement Plan?
- b. If the answer to sub-part (a) is yes, how should the Commission therefore regard the reliability of the evidence presented in the 2013 RPP?

PSC-228

Regarding: Market structure

Witness: Wilson

- a. Is the wholesale electricity market in the Northwest sufficiently competitive such that, absent any involvement by electric utilities, their regulators, and publicly-owned utilities (e.g., ratepayer-backed construction of new resources or commitments to long-term PPAs with non-utility generators), unregulated entrepreneurs would construct the capital-intensive resources needed to satisfy demand in the timeframe

needed to maintain current standards of system reliability? If so, what evidence supports that conclusion?

- b. If the wholesale electricity market in the Northwest is not competitive to the degree described in part (a), is it reasonable to assume that the region could not sustain current standards of system reliability if all the publicly-owned and regulated investor-owned utilities undertook a strategy of relying solely on purchases from wholesale spot markets to provide all future resource needs?
- c. If the wholesale electricity market in the Northwest is not competitive to the degree described in part (a), so that maintaining current standards of system reliability requires ratepayer-backed capital investments either directly by publicly-owned and regulated investor-owned utilities or through ratepayer-backed long-term PPA commitments, to the extent NWE were to undertake a strategy of relying solely on purchases from wholesale spot markets to provide all future resource needs, would it and its customers be free-riding on other utilities' ratepayer-backed capital investments?
- d. Are you aware of other utilities that use the projected cost of wholesale spot market purchases as the only or primary measure of the cost-effectiveness of a potential capital investment in a new resource? If so, please identify those utilities and provide citations for the documentation of this practice.

PSC-229

Regarding: Alternative cost estimates

Witness: Wilson

- a. At 27:7-10 you state that NorthWestern's cost comparisons will result in higher costs for ratepayers than would projected competitive market purchases for at least the next decade. Why is a projection of market purchases a reasonable benchmark against which to compare the cost of purchasing the hydro facilities?
- b. NorthWestern's stochastic cost comparison compares estimates of total portfolio costs with the hydro facilities to total portfolio costs with a combined cycle gas turbine generator; NorthWestern's recent preferred resource plans acquire a combined cycle gas turbine in the 2018 timeframe. Aside from any issues with the stochastic modeling process itself, are avoidable supply portfolio costs for a preferred resource plan a reasonable benchmark against which to evaluate the cost of purchasing the hydro facilities? If not, please explain why.
- c. In each of the last two NorthWestern PURPA avoided cost dockets (D2010.7.77 and D2012.1.3) the Commission used a combination of market price projections and the cost of owning an operating a combined cycle gas turbine generator to estimate NorthWestern's avoided costs. Would applying that method to determine an avoided cost benchmark against which to evaluate the cost of purchasing the hydro facilities

be reasonable? If not, please explain.

- d. To what extent should there be consistency between the cost benchmark the Commission uses to evaluate the purchase of the hydro facilities and the avoided cost estimates the Commission uses to set standard rates for PURPA qualifying facilities?
- e. To what extent can NorthWestern's evaluation of the PPLM thermal facilities, which NorthWestern also had an opportunity to purchase, establish a cost benchmark against which to compare the purchase of the hydro facilities?

PSC-230

Regarding: Comparison of Hydros to Gas Generators

Witness: Wilson

- a. You seem to rely, for purposes of comparing the Hydros with alternatives, only on a market alternative. Have you analyzed the portfolio that includes CCCT and SCCT, and what are your general observations about these portfolios as a viable alternative to the Hydros?
- b. Have you reviewed how the 2013 and 2011 RPPs differ in regard to their inputs for CCCT capital costs? Do you believe one set of data is more reliable than the other?
- c. Montana-Dakota Utilities, in its integrated resource plan, assumes co-ownership of a CCCT to achieve greater economies of scale. NorthWestern does not. Do you believe that NorthWestern's expectation that it would bear the sole burden of building a 238 MW CCCT in 2018 is a proper one?

PSC-231

Regarding: Analysis of PPLM's Thermal Assets

Witness: Wilson

- a. In response to data request PSC-066, NorthWestern provided a spreadsheet that estimates the net present value of Colstrip 1 and 2 to be minus \$127 million, and the net present value of Colstrip 3 to be plus \$100 million. In your opinion, do these figures represent reasonable estimates of the value of these resources?
- b. Have you reviewed the Long Term Rev Req analysis of the thermal assets presented in response to PSC-003? If so, do you believe that this model represents an appropriate judgment about the future revenue requirements of the thermal assets?
- c. In your opinion, is a detailed valuation of the proffered coal-fired resources relevant to this proceeding? Please explain your reasoning.

- d. How would you recommend the Commission perform its duty in relation to statute and administrative rules in order to find that NorthWestern did (or did not) reasonably evaluate these resources compared with the Hydros?

PSC-232

Regarding: Carbon Hedging, Thermal Assets

Witness: Wilson

In your opinion, would a combined purchase of the hydro and coal-fired facilities provide a hedge against the uncertainty in carbon prices, if the same carbon price forecast was baked into the initial purchase price of the coal assets?

PSC-233

Regarding: Consumer Counsel Conditions

Witness: Wilson

Can you provide other examples of where regulated, cost-of-service based utilities were subject to provisions of the type that you suggest (i.e., which cap recovery of certain expenditures beyond what had first been forecasted by the utility, or where a utility is only allowed to recover part of its capitalization on a deferred basis)?

PSC-234

Regarding: Market-Crossover-Point Test

Witness: Wilson

In a case concerning the rate-basing of natural gas supply fields, the Consumer Counsel and NorthWestern reached a settlement that subjects the purchases to a market-crossover-point test. Would such an approach have validity here and, if so, how would one apply it?

PSC-235

Regarding: Relevance of Public Sentiment to this Transaction

Witness: Wilson

NorthWestern has represented that public support for acquiring the Hydros runs high, as compared to, say, thermal assets. (See Exhibit_(APP-3), where NorthWestern includes various editorials from around the state as well as a statement of support from Sen. Jon Tester.) How, if at all, should such public attitudes and political opinions influence the Commission's thinking on this matter?

PSC-236

Regarding: Alternate Proposals

Witness: Wilson

- a. Could you support an alternate proposal where the Commission would not place prior restrictions on the recovery of future decommissioning or negative net salvage costs, apply expected terminal value appreciation adjustments to depreciated capital, limit future capital expenditure recovery, or defer admission into rate base of the capital equivalent of the expected net present value of carbon taxes; but instead would approve immediate entry into rate base of some value less than \$900 million, along with specified values for return on equity and capital structure?
- b. If you could support such a proposal, do you have a set of recommended values for the approved capital increase to rate base, return on equity, and capital structure?
- c. If you could support such a proposal, and given that the increase to rate base would be treated now and in the future on a consolidated basis with the rest of the rate base regarding Commission authorized returns, do you have a recommended value for increase to rate base?
- d. If you could support such a proposal, and given that the increase to rate base would be treated now and in the future subject to a 10% return on equity and a 52/48 capital structure, do you have a recommended value for increase to rate base?